

Table 5.7.3c-1 Data from rivers north and south of the Charles River, with well documented alewife and river herring spawning monitoring programs in Rhode Island, Massachusetts and New Hampshire. Assembled by G. Szal, MA DEP, October, 2001 (Page 1 of 3).

Alewife Data

Monument River, Bourndale, Massachusetts

•Alewife Data Only

Monument River, Bourndale, Massachusetts

<u>Year</u>	<u>Highest River Temperature Reached by end of Run</u>		<u>Day of Year at end of Run</u>	<u>Calendar Dates</u>
	<u>°C</u>	<u>°F</u>		
1990	17.8	64	155	June 4
1991	18.9	66	147	May 27
1992	18.3	65	152	June 1
1993	18.5	65	144	May 24
1994	18	64	144	May 24
1995	20	68	155	June 4
1996	21	70	147	May 27
1997	14	57	148	May 28
1998	21	70	146	May 26
2000	20.5	69	139	May 19
2001	20	68	137	May 17
2002	17.8	64	141	May 21

Parker River, Massachusetts 1997 – 2001

- **Alewife Run:** 99% of Fish Passed by 65°F; data from all years combined
Range of dates for end of run: May 9-May 19

Lamprey River, New Hampshire

•Alewife Run

<u>Year</u>	<u>Max. Temperature when 95% of Run is Complete</u>		<u>Max. Temperature when 99% of Run is Complete</u>		<u>Date when 99% of Run is Complete</u>
	<u>°C</u>	<u>°F</u>	<u>°C</u>	<u>°F</u>	
2000	19	66	19	66	May 31
1999	20	68	19.5	67	May 28

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Blueback Data

Taylor River, New Hampshire

<u>Year</u>	<u>Max Temp, 95% Run Completed</u>		<u>Max. Temp. 99% Run Completed</u>	
	<u>°C</u>	<u>°F</u>	<u>°C</u>	<u>°F</u>
1999	22.5	73	26	79

Oyster River, New Hampshire

Blueback Run

<u>Year</u>	<u>Max Temp, 95% Run Completed</u>		<u>Max. Temp. 99% Run Completed</u>	
	<u>°C</u>	<u>°F</u>	<u>°C</u>	<u>°F</u>
1999	20	68	22.5	73

Mixed Species (Blueback and Alewife) Data

Cocheco River, New Hampshire

<u>Year</u>	<u>Max Temp, 95% Run Completed</u>		<u>Max. Temp. 99% Run Completed</u>	
	<u>°C</u>	<u>°F</u>	<u>°C</u>	<u>°F</u>
2000	18	64	19	66
1999	23	73	24.5	76
1998	21.5	71	22	72
1997	22	72	23.5	74

Exeter River, New Hampshire

<u>Year</u>	<u>Max Temp, 95% Run Completed</u>		<u>Max. Temp. 99% Completed Run</u>	
	<u>°C</u>	<u>°F</u>	<u>°C</u>	<u>°F</u>
2000	19	66	19	66
1999	20.5	69	23.5	74
1998	22	72	23.5	74
1997	22.5	73	24	75

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Merrimack River, Massachusetts

<u>Year</u>	Max. Temp @ Bulk of Run <u>Complete and %</u>	<u>Max Temp.</u> <u>95% Completed Run</u>	<u>Max. Temp</u> <u>99% Completed Run</u>
1983	64°F (85%)	78°F	79°F
1984		71°F	71°F
1985		73.5°F	73.5°F
1986	58°F	72°F	72°F
1987		69°F	74°F

Merrimack River, Massachusetts (continued)

<u>Year</u>	Max. Temp Reached when Bulk of <u>of Run Complete</u>	<u>Max Temp. reached</u> <u>95% Run Completed</u>	<u>Max. Temp. reached</u> <u>99% Run Completed</u>
1988	64°F	62°F	66°F
1989	66°F	66°F	69°F
1990		66°F	68°F
1991		74°F	75°F
1992		66°F	68°F
1993	65°F	65°F	65°F
1994	64°F	64°F	64°F
1995	64°F	64°F	64°F
1996	64°F	64°F	64°F
1997	56°F	56°F	70°F
1998	59°F	64°F	70°F
1999	65°F	65°F	67°F
2000	64°F	64°F	64°F

Other information on Merrimack Data:

During the 1991 migration, alewives were reported to have come up the fish lift at the Essex dam at temperatures up to 75°F. As the dam is 26 miles upstream of the mouth of the Merrimack, the river temperature at which alewives enter the system is unknown. We also have no data regarding how long it took the fish to travel this distance.